UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/756,680	01/10/2001	Richard Cam	16337.870	4581

7590   10/18/2006

Geoffrey R. Myers, Esq.
Zito, Myers & Sheets
Suite 203
26005 Ridge Road
Damascus, MD 20872

EXAMINER
WONG, BLANCHE

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 10/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/756,680	CAM ET AL.
	Examiner	Art Unit	
	Blanche Wong	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *August 16, 2006*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4,9-12,14 and 15* is/are rejected.

7)☒ Claim(s) *2,3,5-8 and 13* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   Claims 12,14,15 are objected to because of the following informalities:

With regard to claim 12, Examiner suggests removing –operative to—in lines 3

and 4 to make the limitation more positive. Similarly in claims 14 and 15.

With regard to claim 14, Examiner suggests replacing –said SIPO blocks—in line

5 with "said plurality of SIPO blocks" in consistent with –said plurality of SIPO blocks—

lines 3-4.

With regard to claim 14, Examiner suggests replacing –said register sets— in line

8 with "said M register sets" in consistent with "M register sets" in line 7.

With regard to claim 14, Examiner suggests replacing – n-bit words of data – in

line 8 with "n-bit words of serial input data" in consistent with – n-bit words of serial input

data – in line 5.

With regard to claim 14, Examiner suggests replacing –a plurality of said

transition detection blocks—in line 17 with "said plurality of transition detection blocks".

With regard to claim 15, Examiner suggestion replacing –said SIPO block—in

lines 3-4 with "said SIPO blocks".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

3.   **Claims 4,9,12,14,15** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 4, it is unclear what is "sufficiently often" in line 2.

With regard to claim 12, it is unclear 1) how a first layer device is also a physical layer, 2) what is meant by a second layer device *has* a transmit link layer device [with emphasis], and 3) what is a receive link layer device.

With regard to claim 14, it is unclear whether "a plurality of said transition detection blocks" is the same one as in line 14.

With regard to claim 15, it is unclear 1) what is meant by "each of said SIPO blocks having n bit outputs" in lines 4-5 or whether each of the parallel output data from each of said SIPO block is n bits long, 2) whether "parallel output data" in line 4 is the same as "data output" in line 5, and 3) how "each of said SIPO blocks having separate bit outputs" in line 6 and whether these bit outputs are the same as the "parallel output data" in line 4 or the parallel output data is a bit-long and together n-bit in parallel.

With regard to claim 15, it is unclear whether "an associated one of said transition detection blocks" in lines 18-19 that detects of the presence of the training pattern by is the same "one of said transition detection blocks" in line 19 that searches for a transition on one of said 17 bit positions.

With regard to claim 15, it is unclear what is an appropriate register in line 22 and "said appropriate register" in lines 22-23, and whether this relates to "M register sets" in line 8. If so, how.

4.   There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites the limitation "transfer information" in lines 1-2.

Claim 14 recites the limitation "said M sets of registers" in lines 11,15 and 18.

Claim 14 recites the limitation "said registers" in line 13.

Claim 14 recites the limitation "said M sets of W registers" in line 16.

Claim 15 recites the limitation "M sets of registers" in lines 12-13, lines 13-14 and

lines 15-16.

Claim 15 recites the limitation "said 17 transition detection blocks" in lines 21-22.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   **Claims 1,10** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Ayanoglu et al. (U.s. Pat No. 5,822,309) in view of Ofek (U.S. Pat No. 6,760,328).

With regard to claim 1, Ayanoglu discloses

(a) dividing control information into an in-band portion and an out-of-band portion

(a hybrid in-band and out-of-band signaling scheme, col. 2, line 54);

(b) transmitting the in-band portion of said control information along a path for

data **(it is Examiner's position that in-band are those signals that can be**

delivered through the contents of a call) from one of said first and second

layer devices **(mobiles 28, col. 3, line 58)** to another of said first and second

layer devices **(peer-to-peer, col. 3, line 59)**, wherein said in-band control

information controls data bus lanes **(ATM VP/VC, col. 4,line 66)** and not data;

and

(c) transmitting the out-of-band portion of said control information along a path for

control/signaling **(a signaling channel, col. 5, line 24) (it is Examiner's**

position that out-of-band are those signal transmitted by means other than

an in-band signal) from one of said first and second layer devices **(mobiles 28,**

col. 3, line 58) to another of said first and second layer devices **(peer-to-peer,**

col. 3, line 59).

However, Ayanoglu fails to explicitly show control information having a plurality of

control word; and (d) inserting in said data path a control of data signal to identify when

the data path contains control information and when it contains data; whereby re-

encoding of data and insertion of control information upon predetermined intervals is

avoided.

In an analogous art, Ofek discloses control information having a plurality of

control words **(control words)**; and (d) inserting in a data path **(in-band signaling)** a

control of data signal to identify when the data path contains control information and

when it contains data; whereby re-encoding of data and insertion of control information

upon predetermined intervals is avoided **(control words are used as in-band**

signaling to indicate data packet start, end, col. 22, lines 28-29).

At the time of the invention, it would have been obvious to a person of ordinary

skill in the art to include control information having a plurality of control word; and (d)

inserting in said data path a control of data signal to identify when the data path

contains control information and when it contains data; whereby re-encoding of data

and insertion of control information upon predetermined intervals is avoided in

Ayanoglu's method. The suggestion/motivation for doing so would have been to

provide for non-destructive adjusting transmission of data packets. Ofek, col. 22, line

23. Therefore, it would have been obvious to combine Ofek with Ayanoglu for the

benefit of control information having a plurality of control word; and (d) inserting in said

data path a control of data signal to identify when the data path contains control

information and when it contains data; whereby re-encoding of data and insertion of

control information upon predetermined intervals is avoided, to obtain the invention as

specified in claim 1.

     With regard to claim 10, the combination of Ayanoglu and Ofek discloses a

method according to claim 1.

     Ofek further discloses a single control word of a plurality of control words that

may contain control information that applies to data preceding a single control word as

well as data following a single control word **(control words are used as in-band**

signaling to indicate data packet start, end, col. 22, lines 28-29) (it is Examiner's

position that a packet end applies to data preceding a single control word

because a packet end finishes the previous data and a packet start applies to

data following a single control word because a packet start begins the next data)

     At the time of the invention, it would have been obvious to a person of ordinary

skill in the art to include a single control word of a plurality of control words that may

contain control information that applies to data preceding a single control word as well

as data following a single control word in Ayanoglu's method. The

suggestion/motivation for doing so would have been to provide for non-destructive

adjusting transmission of data packets. Ofek, col. 22, line 23. Therefore, it would have

been obvious to combine Ofek with Ayanoglu for the benefit of a single control word of a

plurality of control words that may contain control information that applies to data

preceding a single control word as well as data following a single control word, to obtain

the invention as specified in claim 10.

7.   **Claims 11,12** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Ayanoglu in view of Ofek and Fukui et al. (U.S. Pat No. 6,266,349).

With regard to claim 1, Ayanoglu discloses

(a) dividing control information into an in-band portion and an out-of-band portion

(a hybrid in-band and out-of-band signaling scheme, col. 2, line 54);

(b) transmitting the in-band portion of said control information along a path for

data **(it is Examiner's position that in-band are those signals that can be**

delivered through the contents of a call) from one of said first and second

layer devices **(mobiles 28, col. 3, line 58)** to another of said first and second

layer devices **(peer-to-peer, col. 3, line 59)**; and

(c) transmitting the out-of-band portion of said control information along a path for

control/signaling **(a signaling channel, col. 5, line 24) (it is Examiner's**

position that out-of-band are those signal transmitted by means other than

an in-band signal) from one of said first and second layer devices **(mobiles 28,**

col. 3, line 58) to another of said first and second layer devices **(peer-to-peer,**

col. 3, line 59).

However, Ayanoglu fails to explicitly show (d) inserting in said data path between data

transfers a control of data signal to identify when the data path contains control

information and when it contains data; and (e) transmitting FIFO status flow information

out-of-band whereby re-encoding of data and insertion of control information upon pre-

determined intervals is avoided.

In analogous art, Ofek discloses (d) inserting in said data path between data

transfers a control of data signal **(control words)** to identify when the data path **(in-**

band) contains control information and when it contains data **(control words are used**

as in-band signaling to indicate data packet start, end, col. 22, lines 28-29) (it is

Examiner's position that the control words that indicate data packet start and end

contains control information and when the control words are not packet start and

end, then it contains data). Fukui discloses (e) transmitting FIFO **(bit-by-bit)** status

(boundaries between the frames) flow information **(reads out)** out-of-band **(it is**

Examiner's position that zero bit is control information/signaling) whereby re-

encoding of data and insertion of control information upon pre-determined intervals is

avoided **(zero bit insertion to denote the boundaries between the frames and**

respective circuit 1000 reads out the bits one-by-one, col. 1, ln. 20-21 and 36-43).

At the time of the invention, it would have been obvious to a person of ordinary

skill in the art to include (d) inserting in said data path between data transfers a control

of data signal to identify when the data path contains control information and when it

contains data; and (e) transmitting FIFO status flow information out-of-band whereby re-encoding of data and insertion of control information upon pre-determined intervals is avoided in Ayanoglu's method. The suggestion/motivation for doing so would have been to provide for non-destructive adjusting transmission of data packets (Ofek, col. 22, line 23) and frame detection in a data stream (Fukui, col. 1, ln. 8). Therefore, it would have been obvious to combine Ofek and Fukui with Ayanoglu for the benefit of (d) inserting in said data path between data transfers a control of data signal to identify when the data path contains control information and when it contains data; and (e) transmitting FIFO status flow information out-of-band whereby re-encoding of data and insertion of control information upon pre-determined intervals is avoided, to obtain the invention as specified in claim 11.

With regard to claim 12, the combination of Ayanoglu, Ofek, and Fukui discloses a method according to claim 11. Ayanoglu further discloses a first layer device is a physical layer **(mobiles, col. 3, line 55)** and a second layer device **(PBS backbone LAN, col. 3, line 61)** has a transmit link layer device transmitting data from the transmit link layer device to the PHY device and a receive link layer device receiving data from the PHY device.

Allowable Subject Matter

8.   Claims 2,3,5-8,13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9.   Claims 4,9,14,15 would be allowable if rewritten to overcome the rejection(s)

under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of

the limitations of the base claim and any intervening claims.

Conclusion

10.   Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Blanche Wong whose telephone number is 571-272-
3177. The examiner can normally be reached on Monday through Friday, 830am to
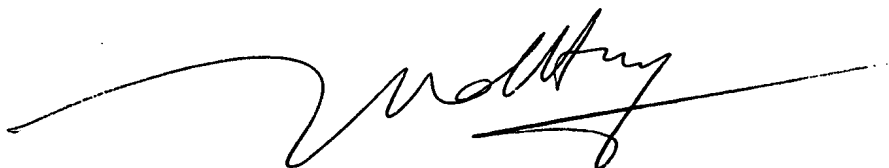530pm.
        If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the
organization where this application or proceeding is assigned is 571-273-8300.
        Information regarding the status of an application may be obtained from the
Patent Application Information Retrieval (PAIR) system. Status information for
published applications may be obtained from either Private PAIR or Public PAIR.
Status information for unpublished applications is available through Private PAIR only.
For more information about the PAIR system, see http://pair-direct.uspto.gov. Should
you have questions on access to the Private PAIR system, contact the Electronic
Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a
USPTO Customer Service Representative or access to the automated information
system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BW
October 13, 2006

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600